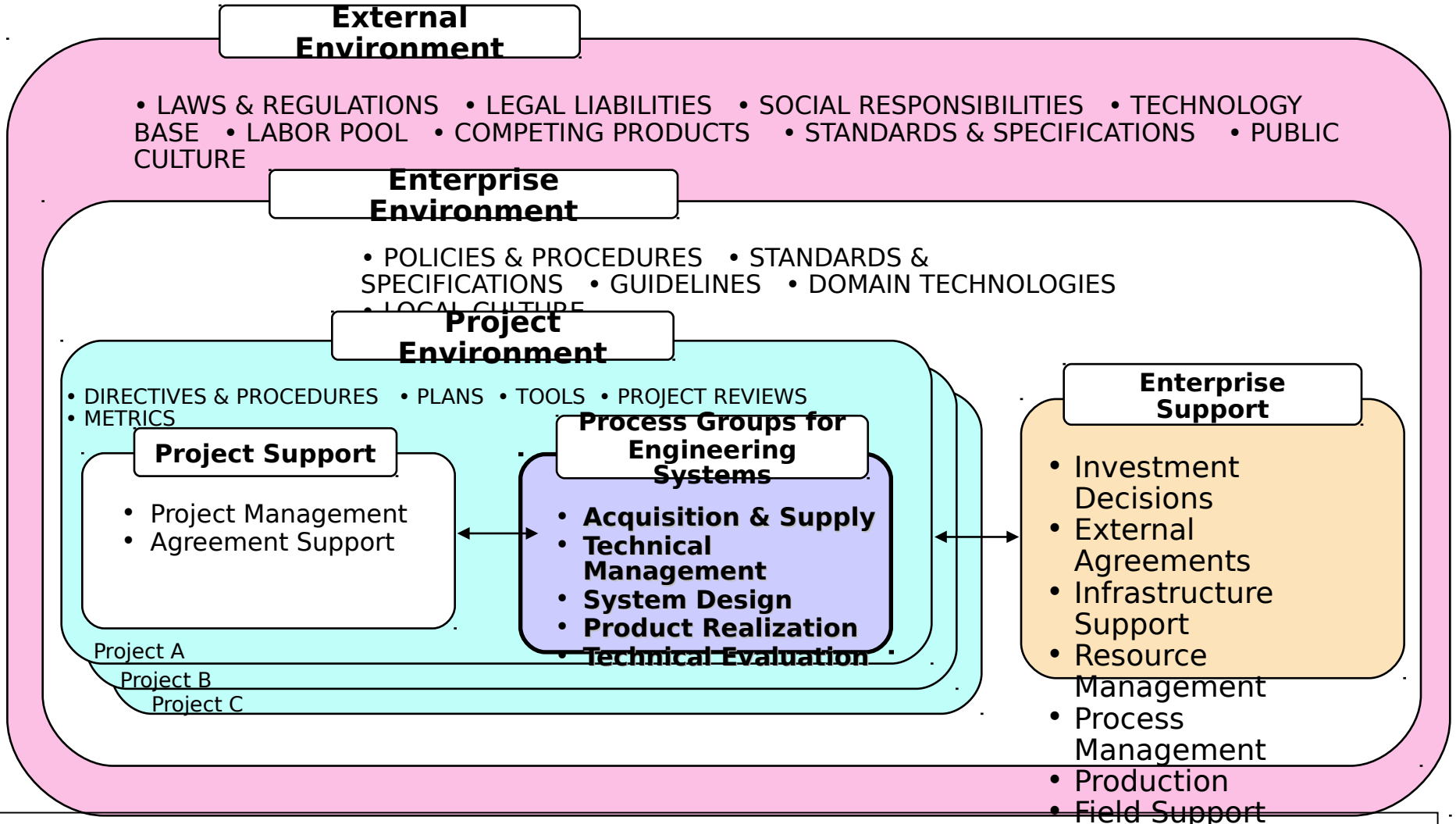
ANSI/EIA Standard

Processes for Engineering a System

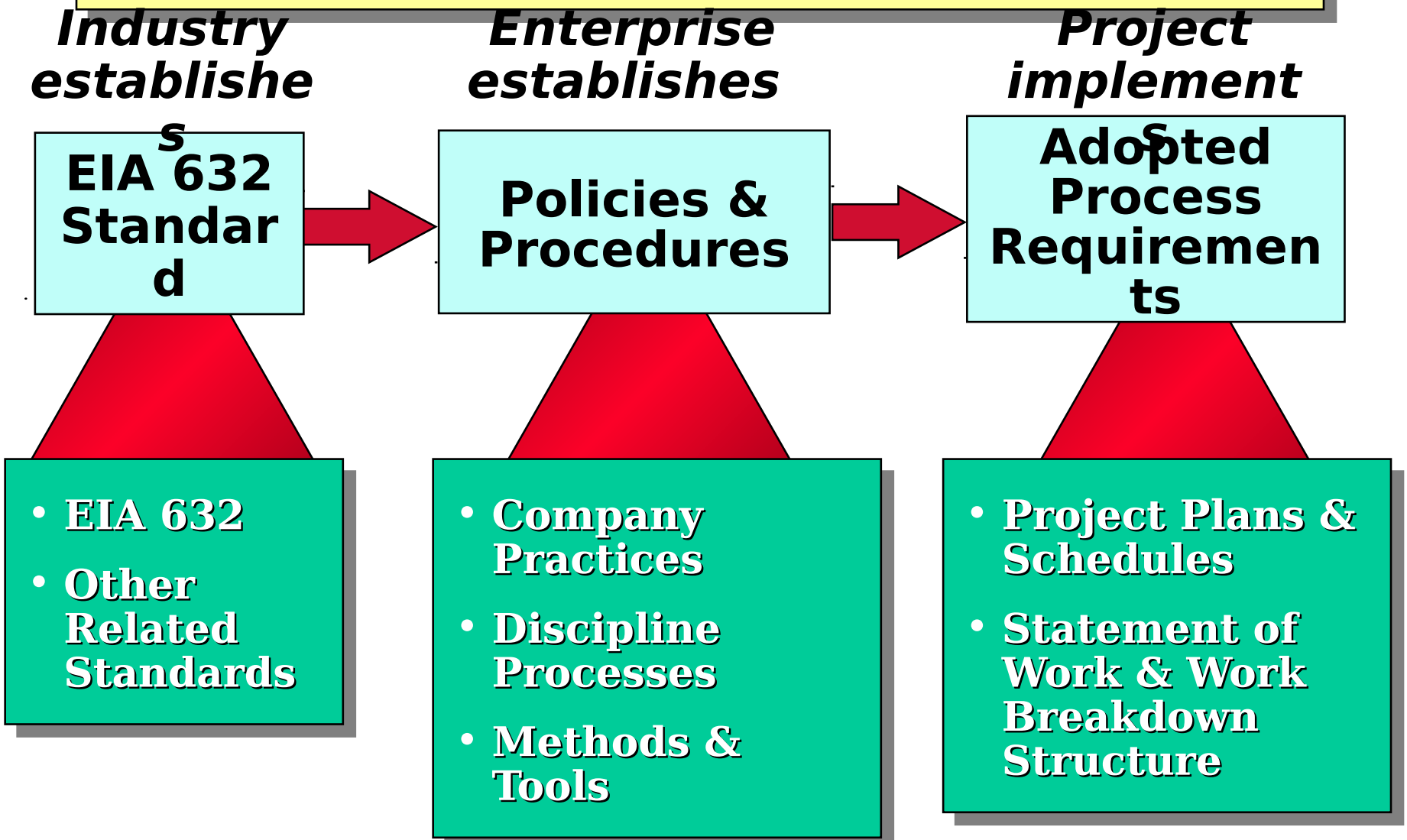
ANSI/EIA 632

Project Environment

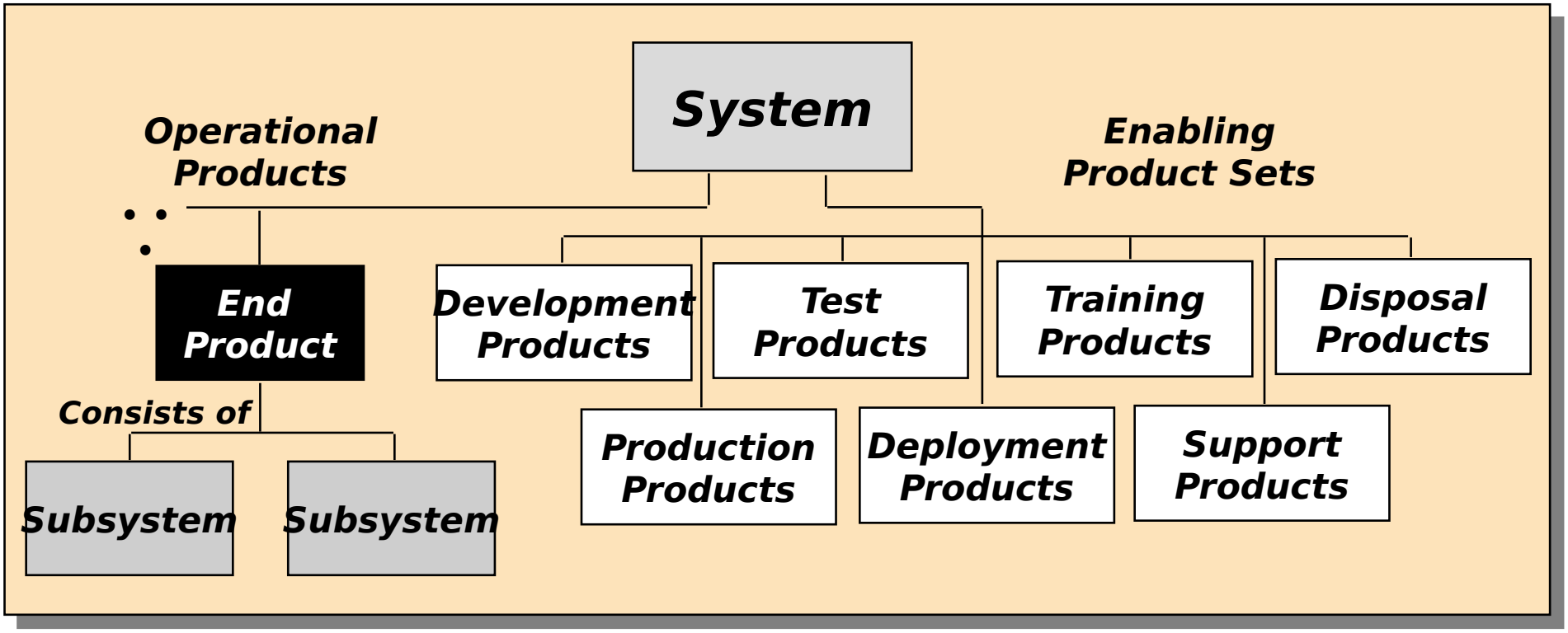

External Environment
• LAWS & REGULATIONS • LEGAL LIABILITIES • SOCIAL RESPONSIBILITIES • TECHNOLOGY BASE • LABOR POOL • COMPETING PRODUCTS • STANDARDS & SPECIFICATIONS • PUBLIC CULTURE
Enterprise Environment
• POLICIES & PROCEDURES • STANDARDS & SPECIFICATIONS • GUIDELINES • DOMAIN TECHNOLOGIES
Project Environment
• DIRECTIVES & PROCEDURES • PLANS • TOOLS • PROJECT REVIEWS
• METRICS
Project Support
• Project Management
• Agreement Support
Process Groups for Engineering Systems
• Acquisition & Supply
• Technical Management
• System Design
• Product Realization
• Technical Evaluation
Project A
Project B
Project C
Enterprise Support
• Investment Decisions
• External Agreements
• Infrastructure Support
• Resource Management
• Process Management
• Production
• Field Support

Note: This slide and many of the following are based on or extracted from a tutorial by James Martin covering an overview of EIA 632 standard presented at the 1st EIA/NDIA Cooperative Engineering and Technical Management Conference &

Role of the EIA 632 Standard

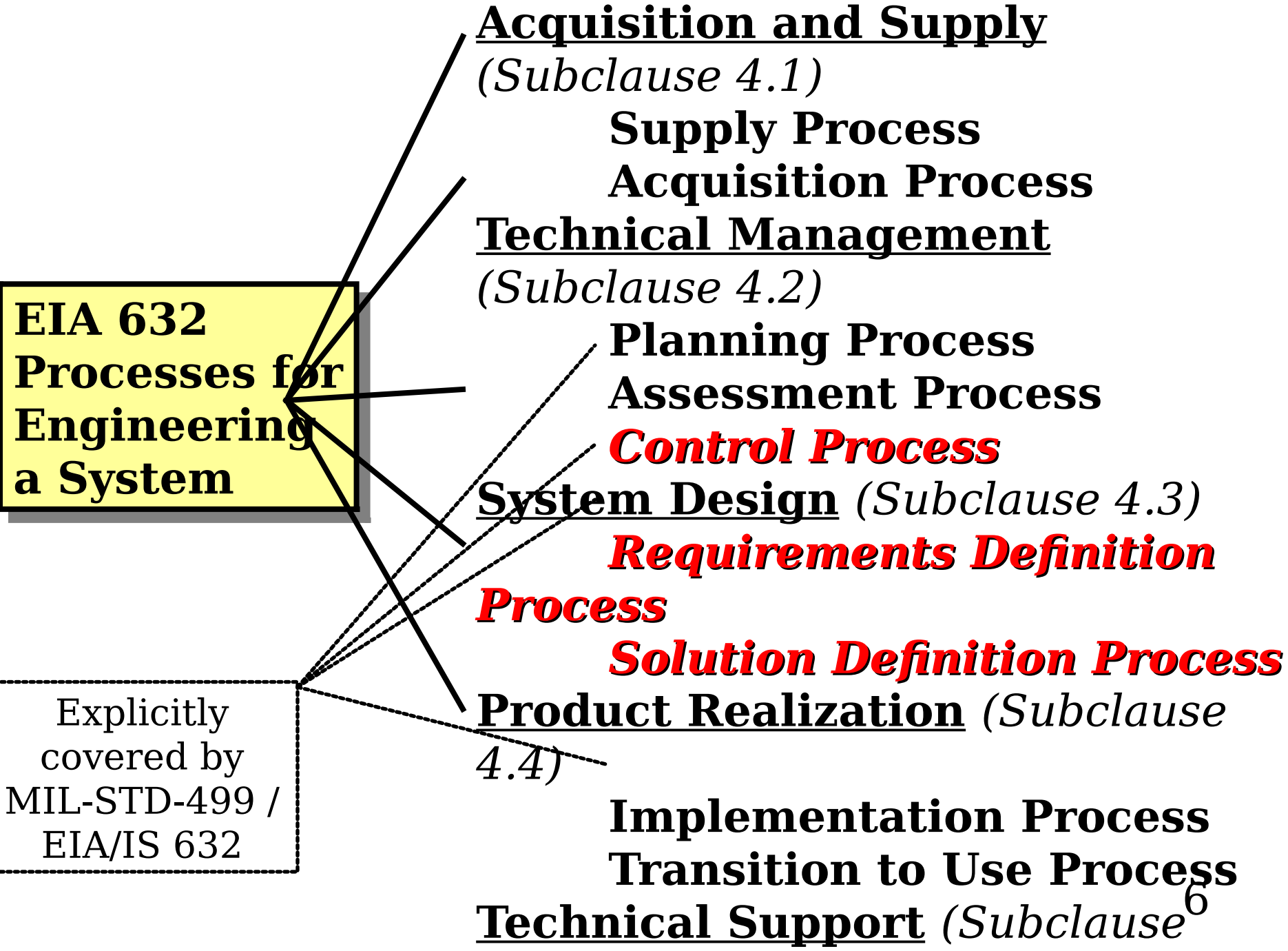


The Building Block Concept

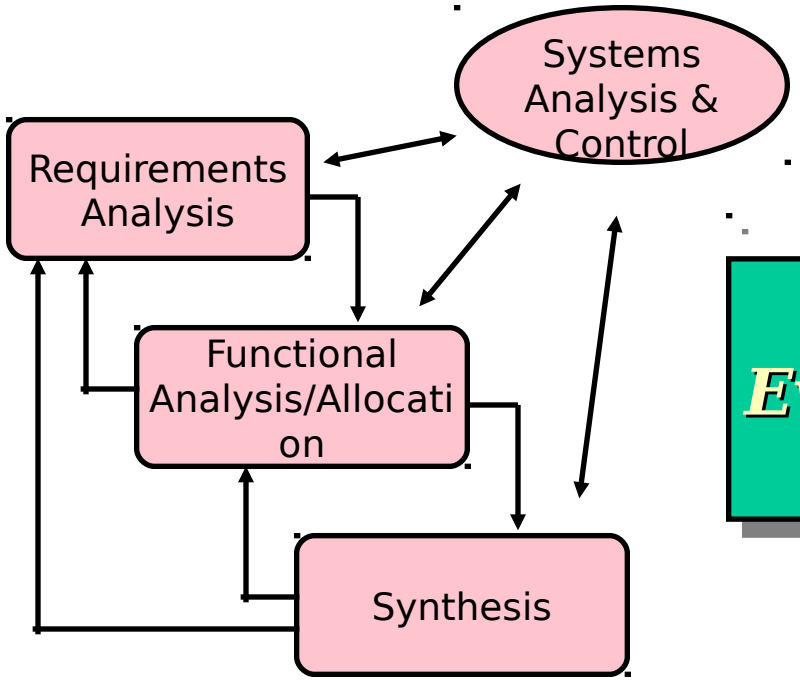


Example Enabling Products

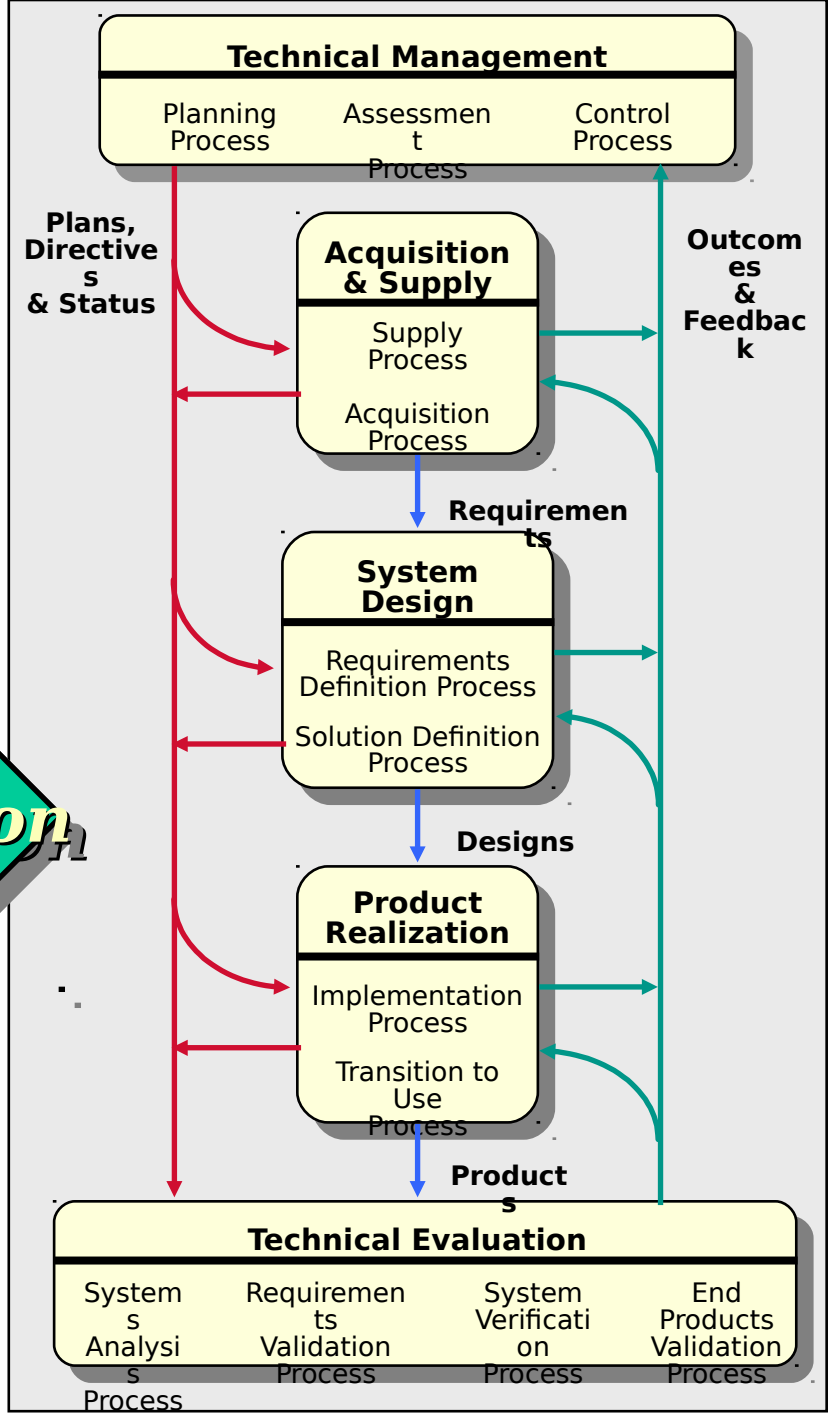
- **Development**
  - Development Plans and Schedules
  - Engineering Policies and Procedures
  - CAE Tools
  - Prototypes
  - Engineers and Managers
- **Production**
  - Production Plans and Schedules
  - Production Tooling and Facilities
- **Test**
  - Test Equipment and Software
  - Test Plans and Procedures
- **Deployment**
  - Staging facilities
  - Warehouses
  - Shipping Containers
- **Training**
  - Class Rooms
  - Flight Simulator
  - Instructors
- **Support**
  - Customer Hot Line
  - Repair Facilities
  - Diagnostic Equipment
  - Overnight Shipping Service
- **Disposal**
  - Disposal Site
  - Refurbishment Facilities
  - Removal Tools
  - Public Safety Bulletins


EIA 632 Processes for Engineering a System
Acquisition and Supply (Subclause 4.1)
Supply Process
Acquisition Process
Technical Management (Subclause 4.2)
Planning Process
Assessment Process
Control Process
System Design (Subclause 4.3)
Requirements Definition Process
Solution Definition Process
Product Realization (Subclause 4.4)
Implementation Process
Transition to Use Process
Technical Support (Subclause
Explicitly covered by MIL-STD-499 / EIA/IS 632

Evolution from Old to New



Evolution



EIA 632 Standard: Processes for Engineering a System

- Clause 1 *Scope*
- Clause 2 *Normative references*
- Clause 3 *Definitions and acronyms*
- Clause 4 *Requirements*
- Clause 5 *Application guidance*
- Clause 6 *Application context*

- Annex A *Glossary*
- Annex B *Enterprise-based life cycle*
- Annex C *Process tasks*
- Annex D *Planning documents*
- Annex E *Technical reviews*
- Annex F *Unprecedented and precedented development*

13 Processes: 33 Requirements

Supply Process Requirements

1—Product Supply

Acquisition Process Requirements

2—Product Acquisition

3—Supplier Performance

Planning Process Requirements

4—Process Implementation Strategy

5—Technical Effort Definition

6—Schedule and Organization

7—Technical Plans

8—Work Directives

Assessment Process Requirements

9—Progress Against Plans and Schedules

10—Progress Against Requirements

11—Technical Reviews

Control Process Requirements

12—Outcomes Management

13—Information Dissemination

Requirements Definition Process Requirements

14—Acquirer Requirements

15—Other Stakeholder Requirements

16—System Technical Requirements

Solution Definition Process Requirements

17—Logical Solution Representations

18—Physical Solution Representations

19—Specified Requirements

Implementation Process Requirements

20—Implementation

Transition to Use Process Requirements

21—Transition to Use

Systems Analysis Process Requirements

22—Effectiveness Analysis

23—Tradeoff Analysis

24—Risk Analysis

Requirements Validation Process Requirements

25—Statements Validation

26—Acquirer Requirements Validation

27—Other Stakeholder Requirements Validation

28—System Technical Requirements Validation

29—Logical Solution Representations Validation

System Verification Process Requirements

30—Design Solution Verification

31—End Product Verification

32—Enabling Product Readiness

End Products Validation Process Requirements

33—End Products Validation